

REMARKS

Reconsideration of the above-identified application is respectfully requested.

Claims 1-36 are pending in the present application.

In the Office Action of May 27, 2005, the Examiner rejected Claims 1, 6-8, 12 and 25 and 30 under 35 U.S.C. §102(b), as allegedly being anticipated by Burrows (U.S. Patent No. 5,710,3724)(hereinafter "Burrows"). Further, the Examiner rejected Claims 2, 3-5, 9-11, 13, 15-19 and 21-22, 24, 26-29, 31-33 and 35-36 under 35 U.S.C. §103(a), as allegedly being unpatentable over Burrows in view of Blandy (U.S. Patent No. 6,249,912)(hereinafter "Blandy"). The Examiner additionally rejected Claims 14 and 23 under 35 U.S.C. §103(a), as allegedly being unpatentable over Burrows in view of Larus et al. (U.S. Patent No. 6,327,699)(Larus"). The Examiner additionally rejected Claims 20 and 34 under 35 U.S.C. §103(a), as allegedly being unpatentable over Burrows in view of Blandy and further in view of Holzle et al. (U.S. Patent No. 5,995,754) (hereinafter "Holzle").

With respect to the substantive rejections of independent Claims 1, 15 and 25 under 35 U.S.C. §102(b), the Applicants' hereby amend these claims for clarification purposes and to further distinguish over the cited Burrows reference.

That is, applicants hereby amend each of independent Claims 1, 15 and 25 to set forth the method for characterizing runtime behavior of a computer program executing in an execution environment, the method comprising:

a) inserting yield points comprising code to be executed at distinguished locations of a program to be executed, each said yield point indicating a conditional sampling operation during execution of said program;

b) during program execution, unconditionally executing a yield point instance and, in response to executing said yield point instance, ascertaining a state of said execution environment for indicating whether the conditional sampling operation is to be performed; and,

c) when a state of said execution environment indicates a condition for performing said sampling operation, recording relevant information for characterizing behavior of said execution environment, whereby sampling operations performed at yield points occur at a subset of the unconditional executions of yield points.

Respectfully, with respect to the rejection of Claims 1, 6-8, 12 and 25 and 30 under 35 U.S.C. §102(b), as allegedly being anticipated by Burrows, it is the case that Burrows, does not teach or suggest inserting yield points comprising code to be executed at distinguished locations of a program to be executed. That is, according to the invention, a yield point comprises code that is unconditionally executed in an original program and may result in a conditional sampling operation being performed. If anything, Burrows teaches the provision of an external mechanism (i.e., a page table mapper) that is used to transfer execution from an uninstrumented (original) program to an identical place in a second version of the original program that is an instrumented version. Respectfully, applicants fail to see how this provides a teaching of inserting yield points and submit, that Burrows cannot be said to be anticipatory. Applicants respectfully traverse based on this ground. The additional limitations added to independent Claims 1, 15 and 25 further distinguish over Burrows whether taken alone or in combination with any of the cited secondary references (e.g., Blandy). The fact that Burrows, in the first instance, does not teach insertion of yield points comprising code to be executed at distinguished locations of an original program, it can not

teach the additional limitation that a yield point indicates a conditional sampling operation. Moreover, Burrows can not teach or suggest that during program execution, a yield point instance is unconditionally executed. Respectfully, no new matter is being entered and full support for this limitation is found in the specification, e.g., on page 5, lines 26 where it is described that a "yield point" comprises a special sequence of instructions that performs actions when executed. Moreover, Burrows can not teach or suggest the limitation reciting that, in response to executing said yield point instance, ascertaining a state of said execution environment for indicating whether the conditional sampling operation is to be performed. Moreover, Burrows can not be said to be anticipatory in that it does not base the conditional sampling (taken at an executed yield point) upon satisfaction of a condition for performing the sampling operation, i.e., it does not base a sampling decision on whether a state of said execution environment indicates a condition for performing the sampling operation, with a net effect being that the conditional sampling operations performed at unconditionally executed yield points occur at a subset of the executions of the yield points.

Respectfully, Burrows is not anticipatory in that: Burrows clearly does not use yieldpoints but rather uses code inserted into a second version of the original program (instrumented version of the program) that always executes a sample operation. In the Burrows technique, the uninstrumented copy of the program contains no instrumentation and thus cannot be used for system profiling; the instrumented copy contains instrumentation, but it is unconditional instrumentation, i.e., it is executed every time when the instrumented program is executing; and, there is no compiler-inserted code that determines when a sample should be taken. That is, the second instrumented version of the program in Burrows is always profiling and consequently, incurs much higher processing overhead as compared to

the present invention where conditional sampling (profiling) operations performed at unconditionally executed yield points occur at a subset of the executions of yield points.

As Burrows does not teach the unconditional execution of yield points and conditional actions performed at executed yield point instances, as set forth in each of Claims 1, 15 and 25, it is respectfully submitted that Burrows (whether taken alone or in combination with Blandy) does not anticipate the amended Claims 1, 15 and 25. In fact, Burrows appears to teach away from the process of using yield points as claimed in the present invention, e.g., as such an approach is dismissed by Burrows as requiring the "continuous execution of the larger and slower instrumented version of the program, even while performance data gathering is disabled" (See Burrows at col. 1, lines 51-54). In view of the foregoing, the Examiner is respectfully requested to withdraw the rejection of independent Claims 1, 15 and 25.

Note that independent Claims 15 and 25 have been further amended commensurate with Claim 1, to set forth that conditional sampling operations performed at unconditionally executed yield points occur at a subset of the executions of those yield points, which, as described herein, is not taught by Burrows whether taken alone or in combination with Blandy. As such, the Examiner is respectfully requested to withdraw the rejection of independent Claims 1, 15 and 25 based on Burrows.

It is respectfully submitted that all remaining claims 2-14, 16-24 and 26-36 are dependent upon independent claims whose patentability has been demonstrated by the amendments to respective independent Claims 1, 15 and 25 from which they depend and the remarks presented herein.

This application is now believed to be in condition for allowance, and a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference

might expedite prosecution of this case, it is respectfully requested that the Examiner call applicant's attorney at (516) 742-4343.

Respectfully submitted,



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